WHAT IS CLAIMED IS:

1. A method for determining, by a behavior expert, the performance of an infrastructure component based on the operational information relevant to the performance of said infrastructure component, said method comprising:

5   obtaining said operational information, from at least one data provider connected to said infrastructure component, said operational information providing values for a set of variables that are used to define the performance of said infrastructure component;

transforming zero or more states, controlled by said behavior expert,

10   according to a set of metric rules, employed by said behavior expert, based on the values of said set of variables; and

generating zero or more events, indicating the performance of said infrastructure component, according to a set of behavior rules, employed by said behavior expert, based on said states transformed by said transforming.

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2. The method according to claim 1, wherein each of said metric rules includes an if-then statement, relating a set of variables to a set of states, where the if-condition of said if-then statement is expressed as relations between said set of variables and their values and where the actions of said if-then statement describe said set of states to be

20   transformed, when the if-condition of said metric rules is satisfied, and the manner the set of states to be transformed.

3. The method according to claim 1, wherein each of said behavior rules includes an if-then statement, relating a set of states to a set of events, where the if-condition of said

25   if-then statement is expressed with respect to said set of states and the actions of said if-

then statement describe the set of events to be generated when the if-condition of said

behavior rules is satisfied.

4. The method according to claim 2, wherein said if-condition includes at least

one of:

a quantitative condition expressed as at least one relation between a

variable and its corresponding quantitative value;

a qualitative condition expressed as at least one relation between a variable

and its corresponding qualitative value; and

a combination of quantitative and qualitative condition which includes at

least one quantitative condition and at least one qualitative condition.

5. The method according to claim 4, wherein said quantitative value include at

least one of a numerical value, a Boolean value, and a string value.

6. The method according to claim 4, wherein said qualitative value includes at

least one of a linguistic qualifying term represented by a fuzzy set.

7. The method according to claim 1, further comprising:

declaring zero or more elements of said behavior expert as public elements

so that said elements can be accessed by different behavior experts; and

specifying zero or more different behavior experts as the dependencies of

said behavior expert so that the elements declared by said different behavior experts as

public elements can be accessed by said behavior expert.

8.   The method according to claim 7, wherein said elements include at least one of a state, an event, and a fuzzy set.

9. The method according to claim 1, further comprising:

5   forming uniform event representation for said events, generated by said generating, in accordance with a standard format; and

        posting said uniform event representation of said events in an event pool.

10.   The method according to claim 1, wherein said at least one data provider

10 includes at least one of a service, an operating system, an application, an external transaction, a network, and a behavior expert.

11. A behavior expert system for determining the performance of an infrastructure component based on the operational information relevant to the performance of said

15 infrastructure component, said system comprising:

        an acquisition mechanism for obtaining said operational information, from at least one data provider connected to said infrastructure component, said operational information providing values for a set of variables that are used to define the performance of said infrastructure component;

20   a state transformation unit for transforming zero or more states according to a set of metric rules based on the values of said set of variables; and

        an event generation unit for generating zero or more events, indicating the performance of said infrastructure component, according to a set of behavior rules, based on said states transformed by said state transformation unit.

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12. The system according to claim 10, further comprising:

an output port for exporting zero or more elements of said behavior expert system as public elements so that said elements can be accessed by different behavior expert systems; and

an input port for importing zero or more elements from different dependent behavior expert systems wherein said zero or more elements are declared as public elements by said different behavior expert systems.

13. The system according to claim 11, wherein said elements include at least one of a state, an event, and a fuzzy set.

14. The system according to claim 10, further comprising:

an event representation generator for constructing uniform event representations for said events, generated by said event generation unit, in accordance with a standard format; and

a posting mechanism for posting said uniform event representations of said events in an event pool.

15. The system according to claim 13, wherein said standard format includes a uniform data model.

16. The system according to claim 10, wherein said event pool includes a blackboard.

17. A computer-readable medium encoded with a program for determining the performance of an infrastructure component based on the operational information relevant to the performance of said infrastructure component, said program comprising:

obtaining said operational information, from at least one data provider

5   connected to said infrastructure component, said operational information providing values for a set of variables that are used to define the performance of said infrastructure component;

transforming zero or more states, controlled by said behavior expert, according to a set of metric rules, employed by said behavior expert, based on the values

10   of said set of variables; and

generating zero or more events, indicating the performance of said infrastructure component, according to a set of behavior rules, employed by said behavior expert, based on said states transformed by said transforming.

15   18. The computer-readable medium according to claim 16, wherein said at least one data provider includes at least one of a service, an operating system, an application, an external transaction, a network, and a behavior expert.

19. The computer-readable medium according to claim 16, wherein each of

20   said metric rules includes an if-then statement, relating a set of variables to a set of states, where the if-condition of said if-then statement is expressed as relations between said set of variables and their values and where the actions of said if-then statement describe said set of states to be transformed, when the if-condition of said metric rules is satisfied, and the manner the set of states to be transformed.

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20. The computer-readable medium according to claim 1, wherein each of said behavior rules includes an if-then statement, relating a set of states to a set of events, where the if-condition of said if-then statement is expressed with respect to said set of states and the actions of said if-then statement describe the set of events to be generated

5   when the if-condition of said behavior rules is satisfied.

21. The computer-readable medium according to claim 18, wherein said if-condition includes at least one of:

a quantitative condition expressed as at least one relation between a

10   variable and its corresponding quantitative value;

a qualitative condition expressed as at least one relation between a variable and its corresponding qualitative value; and

a combination of quantitative and qualitative condition which includes at least one quantitative condition and at least one qualitative condition.

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22. The computer-readable medium according to claim 20, wherein said quantitative value include at least one of a numerical value, a Boolean value, and a string value.

20   23. The computer-readable medium according to claim 20, wherein said qualitative value includes at least one of a linguistic qualifying term represented by a fuzzy set.

24. The computer-readable medium according to claim 1, said program

25   further comprising:

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declaring zero or more elements of said behavior expert as public elements so that said elements can be accessed by different behavior experts; and

specifying zero or more different behavior experts as the dependencies of said behavior expert so that the elements declared by said different behavior experts as

5   public elements can be accessed by said behavior expert.

25.   The computer-readable medium according to claim 23, wherein said elements include states, events, and fuzzy sets.

10   26.   The computer-readable medium according to claim 1, said program further comprising:

forming uniform event representation for said events, generated by said generating, in accordance with a standard format; and

posting said uniform event representation of said events in an event pool.

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27.   The computer-readable medium according to claim 25, wherein said standard format includes a uniform data model.

28.   The computer-readable medium according to claim 25, wherein said

20   event pool includes a blackboard.

29. The method according to claim 3, wherein said if-condition includes at least one of:

a quantitative condition expressed as at least one relation between a

25   variable and its corresponding quantitative value;

a qualitative condition expressed as at least one relation between a variable and its corresponding qualitative value; and

a combination of quantitative and qualitative condition which includes at least one quantitative condition and at least one qualitative condition.

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30. The computer-readable medium according to claim 19, wherein said if-condition includes at least one of:

a quantitative condition expressed as at least one relation between a variable and its corresponding quantitative value;

10   a qualitative condition expressed as at least one relation between a variable and its corresponding qualitative value; and

a combination of quantitative and qualitative condition which includes at least one quantitative condition and at least one qualitative condition.

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